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Congress Can Keep Our Eye on the Universe Open

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The president has crafted a budget that does not fund the long-planned final repair mission for the Hubble Space Telescope. Congress now faces a historic decision: If money is not restored to fix Hubble, then one of the world's most productive scientific instruments will forever close its eye on the universe. What is at stake is not only a piece of stellar technology but our commitment to the most fundamental human quest: understanding the cosmos. The Hubble telescope is a national asset, an inspiration to young scientists-in-the-making and an orbiting workhorse in the prime of its life. It has given us riveting, ravishing pictures of solar systems at birth, galaxies colliding and the death throes of a star in supernova. It has measured the rate of the universe's expansion, pinpointed the origins of gamma ray flashes, proved the existence of monster black holes and more. And yet, as staggering as such revelations have been over the last 15 years, Hubble's most important discoveries could be in the future.

Behind the Hubble budget cut is a debate over whether another shuttle service mission (there have already been four) is too expensive, too dangerous, or both. NASA asked a National Academy of Sciences panel to advise it on Hubble's future, and the answer came back: Service Hubble and use the shuttle to do it. And according to former NASA Administrator Sean O'Keefe, who left the agency just last week, the cost for the repair mission has long been a part of the agency's budget.

Among the alternatives the panel considered was a robotic repair mission, but the costs would be comparable and the robot option has a major drawback — there may not be enough time to develop the necessary technology before wear and age shut the telescope down for good.

A new satellite that could carry some Hubble-type instruments was another option. But Big Science progresses through a system of peer review to select a small fraction of proposed new projects to implement. It would be premature to push for a Hubble replacement ahead of other projects. In the meantime, it would be irresponsible to throw away Hubble years before a new telescope could even be put in place.

In the wake of the Columbia shuttle disaster, some NASA officials have said publicly that astronaut safety is a reason for not servicing the Hubble with a shuttle flight. A group of 26 retired astronauts, however, disagreed in a written statement.

According to one astronaut, if NASA thinks the shuttle isn't safe enough to service the Hubble, then the shuttle should be mothballed, and NASA isn't contemplating that. Nor is NASA ignoring the president's call for manned missions well beyond Earth orbit, which will be much more dangerous than servicing Hubble.

The Hubble telescope is the most successful science project in NASA history, and if it can be derailed then no such project at NASA is safe. And yet this work should be NASA's main order of business. Simply put, it is science that sustains the agency, as it revolutionizes our understanding of the universe.

In 1976, another president zeroed-out the funding for what was then called the Large Space Telescope, but Congress thought better of it, and the Hubble was launched. Now a tally of the costs and the benefits clearly support keeping Hubble operational. It's time for Congress to act again.